

**COMMONWEALTH OF VIRGINIA**  
**Department of Environmental Quality**  
**Southwest Regional Office**

**STATEMENT OF LEGAL AND FACTUAL BASIS**

Vaughan-Bassett Furniture Company, Inc.  
Galax, Virginia  
Permit No. SWRO10538

Title V of the 1990 Clean Air Act Amendments required each state to develop a permit program to ensure that certain facilities have federal Air Pollution Operating Permits, called Title V Operating Permits. As required by 40 CFR Part 70 and 9 VAC 5 Chapter 80, Vaughan-Bassett Furniture Company, Inc., has applied for a renewal of its Title V Operating Permit for its Galax Warehouse. The Department has reviewed the application and prepared a Title V Operating Permit.

Engineer/Permit Contact: \_\_\_\_\_ Date: \_\_\_\_\_  
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Air Permit Manager: \_\_\_\_\_ Date: \_\_\_\_\_  
Rob Feagins

Regional Director: \_\_\_\_\_ Date: \_\_\_\_\_  
Dallas R. Sizemore

## **FACILITY INFORMATION**

### Permittee

Vaughan-Bassett Furniture Company, Inc.  
300 East Grayson Street  
Galax, VA 24333

### Facility

Vaughan-Bassett Furniture Company, Inc. – Galax Warehouse  
South Main Street  
Galax, Virginia

County-Plant Identification Number: 51-640-00025

## **SOURCE DESCRIPTION**

NAICS Code: 337122

The process at the facility includes kiln drying of lumber, woodworking operations, furniture gluing operations and furniture finishing operations. The plant also includes a Combustion Engineering boiler and an Erie City Iron Works boiler. Primary fuel for the Combustion Engineering boiler is wood, with wood materials generated from SIC 2511 manufacturing processes and coal as secondary fuels. Wood and wood materials generated from SIC 2511 processes are the primary and secondary fuels respectively for the Erie City Iron Works boiler.

The facility is a Title V major source of volatile organic compounds. This source is located in an attainment area for all pollutants, and is a minor source. The facility was previously permitted under a minor NSR permit issued on November 9, 2001 (as amended April 20, 2005). A minor NSR permit was issued on October 15, 2009, for the addition of a finger-jointer operation, and all previous permit conditions were carried forward in this latest permit.

## **COMPLIANCE STATUS**

The facility is now only being used for warehouse and fingerjointer operations, and was inspected November 4, 2008. The boiler and dry kiln operations were also shut down in September 2008. The last inspection while the facility was conducting furniture manufacturing operations was on March 10, 2005. This inspection indicated that no problems were noted at the facility in regard to all process operations, including compliance with Subpart JJ, Wood Furniture MACT requirements.

## EMISSION UNIT AND CONTROL DEVICE IDENTIFICATION

The emissions units at this facility consist of the following:

Emission Unit ID	Emission Unit Description & Construction Date (If known)	Capacity/ Size	Pollution Control Device (PCD)	PCD ID	Stack ID	Pollutant Controlled
<b>Fuel Burning Equipment</b> Subject to 9 VAC 5 Chapter 40 (Existing)						
B-1A	Combustion Engineering Wood-fired boiler (1957)	19,240,000 Btu/hr	Barron Industries Multicyclone	mc-1	bs-1	PM
B-1B B-1C	Combustion Engineering coal/woodworking excess (secondary fuels)	19,240,000 Btu/hr	Barron Industries Multicyclone	mc-1	bs-1	PM
B-2A	Erie City Iron Works wood-fired boiler (1946)	19,240,000 Btu/hr	Barron Industries multicyclone	mc-2	bs-2	N/A
B-2B	Erie City Iron Works Woodworking excess (secondary fuel)	19,240,000 Btu/hr	Barron Industries multicyclone	mc-2	bs-2	N/A
<b>Woodworking Equipment</b> Subject to 9 VAC 5 Chapter 40 (Existing)						
WO(bh-1) (bh-2)	Woodworking	66,000 bd. ft./day Total	Moldow Baghouses (vent internally)	df-1 df-2	bh-1 bh-2	PM PM
(bh-3)	Woodworking		Torit-Day Baghouse	df-3	bh-3	PM
<b>Woodworking Equipment</b> Subject to 9 VAC 5 Chapter 50 (New or Modified)						
WO(bh-4)	Woodworking		Torit-Day Baghouse	df-4	bh-4	PM
WO(bh-5)	Woodworking (fingerjointer rated at 500 bd ft/hr)	1,654 ACFM	Grizzly portable fabric filter	df-5	bh-5	PM
<b>Furniture Finishing Equipment</b> Subject to 9 VAC 5 Chapter 40 (Existing)						
FR(sb-1)	Spray booths (9 total)	142 gal/hr (total)	Filter	sf-1	sb-1	PM
(sb-2)			Filter	sf-2	sb-2	PM

Emission Unit ID	Emission Unit Description & Construction Date (If known)	Capacity/ Size	Pollution Control Device (PCD)	PCD ID	Stack ID	Pollutant Controlled
(sb-3)			Filter	sf-3	sb-3	PM
(sb-4)			Filter	sf-4	sb-4	
(sb-5)			Filter	sf-5	sb-5	
(sb-6)			Filter	sf-6	sb-6	
(sb-7)			Filter	sf-7	sb-7	
(sb-8)			Filter	sf-8	sb-8	
(sb-9)			Filter	sf-9	sb-9	
<b>Furniture Finishing Equipment</b> Subject to 9 VAC 5 Chapter 50 (New or Modified)						
(prnt-1)	3-Roll Grain Printer	2.25 lb/hr ink VOC capacity	None	N/A	N/A	N/A
<b>Wood Drying Equipment</b> Subject to 9 VAC 5 Chapter 40 (Existing)						
LD(dk-1)	Lumber drying - Southeastern Installation	77,000 bd. ft. 5,621,000 bd ft/yr	None	N/A		N/A
LD(dk-2)	Lumber drying - Southeastern Installation	77,000 bd. ft. 5,621,000 bd ft/yr	None	N/A		N/A
LD(dk-3)	Lumber drying - Southeastern Installation	77,000 bd. ft. 5,621,000 bd ft/yr	None	N/A		N/A
LD(dk-4) (dk-5)	Lumber drying - Irvington Moore	44,000 bd. ft. x 2 6,424,000 bd ft/yr	None	N/A		N/A
<b>Furniture Gluing Equipment</b> Subject to 9 VAC 5 Chapter 40 (Existing)						
GO	Gluing operation	11,500 ft <sup>2</sup> /hr total				

## EMISSIONS INVENTORY

A copy of the 2008 annual emission update is attached. Emissions are summarized in the following tables.

2008 Actual Emissions

	2008 Criteria Pollutant Emission in Tons/Year				
Emission Unit	VOC	CO	SO <sub>2</sub>	PM <sub>10</sub>	NO <sub>x</sub>
Facility Total	2.12	8.67	6.04	0.75	8.61

2008 Facility Hazardous Air Pollutant Emissions

Pollutant	2008 Hazardous Air Pollutant Emission in Tons/Yr
Formaldehyde (boilers)	0.005
Acetaldehyde (boilers)	0.002
Arsenic (boilers)	0.000005
Lead (boilers)	0.0004
Manganese (boilers)	0.0007

**EMISSION UNIT APPLICABLE REQUIREMENTS - Boilers B-1 and B-2**

**Limitations**

The following requirement is from the minor NSR permit issued October 15, 2009:

Condition 2 requires that the stack exhaust elevation for the Erie City Iron Works boiler not be less than 35 feet.  
 (9 VAC 5-80-1180)

The following Virginia Administrative Codes that have specific emission requirements have been determined to be applicable:

9 VAC 5-40-80, Existing Source Standard for Visible Emissions - Units were installed prior to 1972 and are therefore subject to the existing source opacity requirement of 20%, except for one six-minute period in any one hour of not more than 60% opacity.

9 VAC 5-40-900 and 9 VAC 5-40-930, Existing Source Emission Standards for Fuel Burning Equipment, Standard for Particulate Matter and Standard for Sulfur Dioxide

The boilers were installed prior to 1979, and consequently are considered a fuel burning equipment installation. Particulate emissions are limited through 9 VAC 5-40-900 by the expression:

$$E = 1.0906 H^{-0.2594}$$

where E represents particulate emissions in lb/MMBtu and H is the total heat input capacity in millions of Btu per hour (MMBtu/hr). The capacities of the boilers are added together to yield a total input capacity of 38.48 MMBtu/hr for the installation. This then yields an emission standard of 0.42 lb/MMBtu that applies to each boiler.

Sulfur dioxide emissions are limited through 9 VAC 5-4-930 by the following expression:

$$S = 2.64K$$

where S is the standard in lb/hr of SO<sub>2</sub> and K is the heat input at total capacity expressed in Btu x 10<sup>6</sup> per hour. The capacity of each boiler (19,240,000 Btu/hr) can be used to generate a limit for each of 50.8 lb/hr.

## Monitoring

Monitoring and recordkeeping requirements for boilers B-1 and B-2 have been incorporated to meet Part 70 requirements. They are listed below by type of monitoring requirement.

Visible emission checks are to be performed weekly on the boiler stacks. Observation of visible emissions by this Method 22-type check would in turn trigger the requirement to perform a Method 9 visible emissions evaluation. The Method 9 evaluation is not required if the visible emissions condition is corrected in a timely manner and the cause and correction are recorded.

The Combustion Engineering boiler is equipped with a Barron Industries multicyclone and will be required by the permit to maintain its rated control efficiency of 90 percent. The Erie City Iron Works boiler is equipped with a Barron Industries multicyclone, and 85% control efficiency will be used as a typical value per DEQ boilerplate procedures in the following calculations. Annual multiclone inspections will be required by the permit to insure structural integrity.

Compliance with the emission limits calculated above will be demonstrated by calculations using DEQ approved emission factors for wood and coal firing as shown below:

SCC 1-02-002-04  
Coal-firing PM 66 lb/ton  
SO<sub>2</sub> 38S lb/ton\*

\* S is the wt% sulfur in the coal

SCC 1-02-009-03  
Wood-firing PM 8.8 lb/ton  
SO<sub>2</sub> 0.15 lb/ton

$E = F \times W$ , where

E = Emission rate (lb/time period)

F = Emission factors for the fuel noted above, add 90% control of PM for B-1 multiclone

W = Fuel combusted (tons/time period)

The calculated emission rates can be compared to the maximum expected emission rates using the heat content of the coal as 13,750 Btu/lb and 8000 Btu/lb as the heat content of dry wood fuel:

Boiler B-1 and coal-firing -  $(19,240,000 \text{ Btu/hr}) / (13,750 \text{ Btu/lb} \times 2000 \text{ lb/ton}) = 0.7 \text{ tons/hr}$

PM  $E = (66 \text{ lb/ton})(0.7 \text{ tons/hr})(1 - 0.9) = 4.62 \text{ lb/hr}$

$(4.62 \text{ lb/hr}) / (19.24 \text{ MMBtu/hr}) = 0.24 \text{ lb/MMBtu} < 0.42 \text{ lb/MMBtu standard}$

SO<sub>2</sub> Use 0.6% sulfur coal as with Webb's Plant #1 (SWRO10332)

$E = (38 \times 0.6 \text{ lb/ton})(0.7 \text{ tons/hr}) = 16 \text{ lb/hr} < 50.8 \text{ lb/hr limit}$

Boiler B-1 and wood-firing -  $(19,240,000 \text{ Btu/hr}) / (8000 \text{ Btu/lb} \times 2000 \text{ lb/ton}) = 1.2 \text{ tons/hr}$

PM  $E = (8.8 \text{ lb/ton})(1.2 \text{ tons/hr})(1 - 0.9) = 1.06 \text{ lb/hr}$

$(1.06 \text{ lb/hr}) / (19.24 \text{ MMBtu/hr}) = 0.055 \text{ lb/MMBtu} < 0.42 \text{ lb/MMBtu standard}$

SO<sub>2</sub>  $E = (0.15 \text{ lb/ton})(1.2 \text{ tons/hr}) = 0.18 \text{ lb/hr} < 50.8 \text{ lb/hr limit}$

Boiler B-2 and wood-firing -  $(19,240,000 \text{ Btu/hr}) / (8000 \text{ Btu/lb} \times 2000 \text{ lb/ton}) = 1.2 \text{ tons/hr}$

PM  $E = (8.8 \text{ lb/ton})(1.2 \text{ tons/hr})(1 - 0.85) = 1.58 \text{ lb/hr}$

$(1.58 \text{ lb/hr}) / (19.24 \text{ MMBtu/hr}) = 0.08 \text{ lb/MMBtu} < 0.42 \text{ lb/MMBtu standard}$

SO<sub>2</sub>  $E = (0.15 \text{ lb/ton})(1.2 \text{ tons/hr}) = 0.18 \text{ lb/hr} < 50.8 \text{ lb/hr limit}$

Compliance with the emission standards is expected with proper operation of the Combustion Engineering (B-1) boiler and multiclone control system. Compliance is also expected with the new multiclone on the Erie City Iron Works (B-2) boiler, and the maintenance of a rated efficiency will not be required as it does not appear that a particular control efficiency is not as critical to achieving compliance. However, a stack test is required within 120 days of startup of this boiler after the effective date of this permit. The test will be used to assess compliance with the 0.42 lb/MMBtu standard, and to establish an emission factor to be used in emission calculations as noted above for the same purpose. The permittee is required to determine and record the heat content of the wood fuel.

## Recordkeeping

The permit includes requirements for maintaining records of all monitoring and testing required by the permit. These records are addressed in the monitoring and testing sections above and below.

## Testing

Testing shall be conducted for emissions of particulate matter within 120 days of startup of the Erie City Iron Works boiler following the effective date of this permit. Source emission tests shall

be performed in accordance with 9 VAC 5-50-30, the test methods and procedures contained in each applicable section or Subpart listed in 9 VAC 5-50-410 and the Source Test Report Format attached to the permit. The details of the source emission tests are to be arranged with the Director, Southwest Regional Office. Two copies of test results are to be submitted within 60 days of test completion. The Department and EPA have authority to require testing not included in this permit if necessary to determine compliance with an emission limit or standard.

## **Reporting**

The permit requires the submission of an annual compliance certification no later than March 1 of each calendar year. This must include the methods for determining compliance and the permit conditions serving as the basis for the same.

## **EMISSION UNIT APPLICABLE REQUIREMENTS - Woodworking Equipment (WO)**

### **Limitations**

The following limitations are State BACT requirements from Conditions 3, 4, 5, 8, 9 and 10 of the minor NSR permit issued on October 15, 2009:

Condition 3 requires that particulate emissions from the finger-joint machine be controlled by the Grizzly Industrial Inc., model G0441, portable fabric filter dust collector.  
(9 VAC 5-50-260)

Condition 4 requires that particulate emissions from woodworking equipment be controlled by the Torit-Day fabric filter baghouse.  
(9 VAC 5-50-260)

Condition 5 requires that all subsequent transfer of the collected material from the Torit-Day baghouse be controlled by a completely enclosed transfer system.  
(9 VAC 5-50-260)

Condition 8 limits particulate emissions from the Torit-Day baghouse to 0.01 gr/dscf.  
(9 VAC 5-50-260)

Condition 9 limits particulate emissions from the operation of the finger-joint machine as exhausted from the Grizzly fabric filter exhaust to 0.01 gr/dscf.  
(9 VAC 5-50-260)

Condition 10 limits visible emissions from the Torit-Day baghouse and the Grizzly fabric filter exhaust to 5% opacity as determined by EPA Method 9 (reference 40 CFR 60, Appendix A).  
(9 VAC 5-50-80 and 9 VAC 5-50-260)



The following sections of Virginia Administrative Code that have specific emission requirements have been determined to be applicable:

9 VAC 5-40-2250, Existing Source Standards for Woodworking Operations - Equipment was installed prior to 1972 and is therefore subject to the requirements listed below.

9 VAC 5-40-2270, Standard for Particulate Matter - 9 VAC 5-40-2270 B limits particulate emissions to 0.05 grains per dry standard cubic foot (gr/dscf) of exhaust gas.

9 VAC 5-40-2280, Standard for Visible Emissions - Limits visible emissions to 20% opacity as determined by EPA Method 9 (reference 40 CFR 60, Appendix A), except for one six-minute period in any hour of not more than 60% opacity.

### **Monitoring**

The existing woodworking equipment is controlled by baghouses df-1 through df-3 and is subject to an emissions limit of 0.05 gr/dscf for particulate matter. The finger-joint machine is controlled by the Grizzly portable fabric filter dust collector (df-5), and is subject to an emissions limit of 0.01 gr/dscf for particulate matter. Visible emissions from existing equipment are limited to 20% opacity, except for one six-minute period in any hour of not more than 60% opacity. This permit requires control of particulate emissions by fabric filter baghouses, and a properly operated baghouse is more than adequate to meet the 0.05 gr/dscf limit. Baghouses df-1 and df-2 vent internally. Weekly visible emissions checks are required for df-3 and monthly for df-5 and fugitive emissions points, serving as a mode of periodic monitoring to evaluate compliance with the 0.05 gr/dscf and 0.01 gr/dscf limits and the 20% and 5% opacity limits. Daily checks are required for baghouse df-4 to evaluate the 5% opacity limit. The basis for this approach is that a properly operated baghouse should have no visible emissions. In addition, the permit requires that the baghouses located outside be equipped with devices to continuously measure the differential pressure drop across the fabric filter. These must be checked weekly, with the readings recorded in a log, providing another means to monitor the proper operation of the baghouses.

The facility is a major source subject to Title V permitting and therefore subject to 40 CFR Part 64 - Compliance Assurance Monitoring (CAM). An emission unit is subject to CAM if it meets all of the following criteria on a pollutant-by-pollutant basis:

- a. Emits or has the potential to emit uncontrolled quantities of one or more regulated air pollutants at or above major source levels,
- b. Is subject to one or more emissions limitations for the regulated air pollutants for which it is major before control, and
- c. Uses an add-on control device to achieve compliance with the emissions limitations.

The woodworking operations (with the exception of the finger-joint operation) comprise emissions units that meet all of the above criteria as follows:

- a. They emit uncontrolled quantities of particulate matter above major source levels (except for df-1 and df-2, which vent internally).
- b. Baghouses df-1 through df-3, for existing sources, are subject to a 0.05 gr/dscf particulate emissions standard, and df-4 is limited to 0.01 gr/dscf.
- c. Fabric filter baghouses are used to comply with the limit on particulate matter.

The permittee has installed pressure drop indicators for the baghouses. The permittee will be required to monitor, operate, calibrate and maintain baghouses df-3 and df-4 according to the CAM plan in the following table:

<b>Monitoring, Frequency, Records</b>	<b>Performance Criteria</b>	<b>Indicator Range, Averaging Period</b>
Daily visible emissions checks for df-4 and weekly for df-3. Results recorded daily, noting the date, time, name of the emission unit, observation results, emissions requirement and name of the observer.	Check for presence of visible emissions.	Instantaneous observation of visible emission.
Six-minute Method 9 visible emissions evaluations when triggered by observation of visible emissions. An 18 minute evaluation shall be performed when the visible emissions limit is exceeded in the six-minute evaluation.	Conduct visible emissions evaluation in accordance with 40 CFR60, Appendix A, Method 9. Performed by certified observer.	Opacity is less than or equal to 20% for df-3, and opacity is less than or equal to 5% for df-4.
External bagfilter inspections weekly. Monitor pressure drop indicator and record results weekly.	External bagfilter inspection by a qualified employee with at least one year of experience in maintenance of mechanical equipment.	Indicator range consists of pressure drops above 1" water column and below 6" water column.
Internal bagfilter inspections annually, or when pressure drop is outside of the indicator range.	Internal bagfilter inspection by a qualified employee with at least one year of experience in maintenance of mechanical equipment.	Air flow restrictions affecting proper operation of baghouse.

If any observation exceeds the visible emissions limit for a baghouse during this six-minute period, then an 18 minute VEE is required. The 18 minute evaluation is not required if the emissions condition is corrected expeditiously, and the corrective action is followed by a VEE which demonstrates compliance.

### **Recordkeeping**

Recordkeeping requirements are associated with the CAM and periodic monitoring noted above. Required records for the visible emissions checks include the date, time, name of the emission unit, the applicable visible emissions requirement, the results of the observation, and the name of the observer. Excursions and exceedances with the CAM monitoring must be recorded per 40 CFR 64.7, including actions to return operations to within the indicator range for the control device, or below the applicable emission limitation, as applicable. An excursion is a departure from the indicator range specified, while an exceedance is a violation of an emissions limit.

### **Testing**

The permit does not require source tests for the woodworking operations. The Department and EPA have authority to require testing not included in this permit if necessary to determine compliance with an emission limit or standard.

### **Reporting**

There are requirements for permit deviation reporting and the permit requires the submission of an annual compliance certification no later than March 1 of each calendar year. This must include the methods for determining compliance and the permit conditions serving as the basis for the same.

## **EMISSION UNIT APPLICABLE REQUIREMENTS - Wood Drying Kilns**

### **Limitations**

The following Virginia Administrative Codes that have specific emission requirements have been determined to be applicable:

9 VAC 5-40-80, Standard for Visible Emissions - 20% opacity except for one 6-minute period not to exceed 60%.

### **Monitoring**

Weekly visible emissions checks shall be performed for a period of at least two months, in order to determine if there are any visible emissions from the kilns. These checks may be discontinued if no visible emissions are observed during this period.

## **EMISSION UNIT APPLICABLE REQUIREMENTS - Furniture Finishing Operations (FR)**

### **Limitations**

The following requirement is from the minor NSR permit issued October 15, 2009:

Condition 6 limits throughput and emissions of volatile organic compounds (VOC) in the 3-roll grain printer to 2.25 lb/hr and 9.86 tons/yr, calculated monthly as the sum of each consecutive 12 month period.

The following Virginia Administrative Codes that have specific emission requirements have been determined to be applicable:

9 VAC 5-60-100, EPA National Emission Standards for Hazardous Air Pollutants for Source Categories - Wood Furniture Manufacturing Operations - 40 CFR 63.800 - 819. The company has already made necessary changes to coating application systems which enable it to comply with these requirements.

9 VAC 5-40-80, Standard for Visible Emissions - 20% opacity except for one 6-minute period not to exceed 60%.

9 VAC 5-40-260, Standard for Particulate Matter - Process Weight Rate Table  
Emissions from general processes are not to exceed corresponding quantities given by the formula,  $E = (4.10)P^{0.67}$ . In order to estimate the maximum hourly throughput for the finishing line, the maximum wood drying rate was used as follows:

$$(66,000 \text{ bd-ft/day})(3.9 \text{ lb/bd-ft})(1 \text{ ton}/2000 \text{ lb})/(24 \text{ hr/day}) = 5.36 \text{ tons/hr}$$

The maximum allowed particulate matter emission rate per process unit operation (spray application of four different categories of formulations - wipe stains, miscellaneous stains, lacquer, and washcoat and sealer) is given by:

$$E = (4.10)(5.36)^{0.67} = 12.63 \text{ lb/hr per process unit operation}$$

### **Monitoring**

Monitoring and recordkeeping requirements for the furniture finishing operations have been incorporated to meet Part 70 requirements. The monitoring requirements of the Wood Furniture Manufacturing MACT for volatile hazardous air pollutants are included in the permit. These provisions meet periodic monitoring requirements.

Particulate matter emissions are to be calculated with a mass balance for material types sprayed, accounting for transfer and control efficiencies. Agency boilerplate procedures include a 50% transfer efficiency and 85% control efficiency for filters. All spray booths are now

equipped with filters for control of particulate. Spray booths sb-1 and sb-2 are used for miscellaneous stains, with a total 32 gal/hr finishing capacity. Washcoat and sealer are applied in booths sb-3 (washcoat) and sb-5 (sealer), with an aggregate capacity of 36 gal/hr split evenly between the two booths. Wipe stains are applied in sb-4 with a capacity of 18 gal/hr. Booths sb-6 and sb-7 are used for the combined application of lacquer and lacquer thinner, with a capacity of 36 gal/hr given for lacquer and 20 gal/hr for lacquer thinner. However, lacquer thinner does not contain solids. Finally, booth sb-8 serves as a repair booth. Compliance with the opacity requirement is expected unless a malfunction occurs. Particulate emissions from the spray booths are controlled through the use of filters. Daily checks on visible emissions are required by the permit. If visible emissions occur, Webb will determine opacity using Method 9 (40 CFR 60, Appendix A), unless the condition is corrected in a timely manner and the cause and corrective action are documented.

### **Recordkeeping**

The permit includes requirements for maintaining records of all monitoring and testing required by the permit. These records include results of visible emissions checks and emission calculations.

### **Testing**

The permit does not require source tests for the furniture finishing operations. The Department and EPA have authority to require testing not included in this permit if necessary to determine compliance with an emission limit or standard.

### **Reporting**

There are no specific reporting requirements for the finishing operations other than those required by the Wood Furniture Manufacturing MACT (see Facility-Wide Requirements) or the submission of the annual compliance certification.

## **EMISSION UNIT APPLICABLE REQUIREMENTS - Gluing Operations (GO)**

### **Limitations**

The following Virginia Administrative Codes that have specific emission requirements have been determined to be applicable:

9 VAC 5-40-80, Standard for Visible Emissions - 20% opacity except for one 6-minute period not to exceed 60%.

9 VAC 5-40-260, Standard for Particulate Matter - Process Weight Rate Table  
Emissions from general processes are not to exceed corresponding quantities given by

the formula,  $E = (4.10)P^{0.67}$ . In order to estimate the maximum hourly throughput for the gluing operation, the maximum wood drying rate was used as follows:

$$(66,000 \text{ bd-ft/day})(3.9 \text{ lb/bd-ft})(1 \text{ ton}/2000 \text{ lb})/(24 \text{ hr/day}) = 5.36 \text{ tons/hr}$$

Particulate emissions from the existing gluing operations result from the glue room hot press. The maximum allowed particulate emission rate for the hot press is given by:

$$E = (4.10)(5.36)^{0.67} = 12.63 \text{ lb/hr}$$

### Monitoring

The permit requires recordkeeping of the annual throughput of wood in square feet through the glue room hot press, calculated monthly as the sum of each consecutive 12 month period. Calculation of the average hourly throughput is also required, based on the annual hours of operation for the same period. The hot press itself is rated at 7000 ft<sup>2</sup> of surface per hour. Table 10.5-4 of EPA's AP-42 emission factor compilation indicates an emission factor of 0.12 lb of particulate matter per 1000 ft<sup>2</sup> of panel going through a plywood press. The hot press itself is rated at 7000 ft<sup>2</sup> of surface per hour. This rating allows the calculation of worst case hourly emissions in the following manner:

$$(7000 \text{ ft}^2/\text{hr})(0.12 \text{ lb}/1000 \text{ ft}^2) = 0.84 \text{ lb/hr}$$

This is much less than the limit of 12.63 lb/hr, therefore records of emission calculations are not required. Visible emissions checks will be performed in the same manner as for the wood drying kilns.

### Recordkeeping

The permit includes recordkeeping requirements as noted above for hours of operation and annual and hourly throughputs of wood for the hot press.

### Testing

The permit does not require source tests for the gluing operations. The Department and EPA have authority to require testing not included in this permit if necessary to determine compliance with an emission limit or standard.

### Reporting

There are no specific reporting requirements for the gluing operations other than those required by the Wood Furniture Manufacturing MACT (see Facility-Wide Requirements) or the submission of the annual compliance certification.

## **EMISSION UNIT APPLICABLE REQUIREMENTS - Facility-Wide Requirements**

### **Limitations**

The following Virginia Administrative Codes that have specific emission requirements have been determined to be applicable:

9 VAC 5-60-90, EPA NESHAPs - The company is subject to the 40 CFR 63 Subpart JJ, National Emission Standards for Wood Furniture Manufacturing Operations (Wood Furniture MACT). All limitations from the Wood Furniture MACT have been included in the permit. The General Provisions of 40 CFR 63 Subpart A also apply to the source. Any applicable limitations from the general provisions are also included in the permit.

The kilns at the facility are considered affected sources according to 40 CFR Subpart DDDD (§63.2231(a)), National Emissions Standards for Hazardous Air Pollutants: Plywood and Composite Wood Products. The primary applicable requirement involves the initial notification. This MACT will also be cited as technically applicable.

### **Monitoring**

The Wood Furniture MACT contains requirements for continuous compliance, including monthly and/or daily recordkeeping depending on the method of compliance. These requirements have been incorporated in the permit. The Wood Furniture MACT contains adequate monitoring to meet the periodic monitoring requirements, so no additional monitoring has been incorporated into the Title V permit. The company has elected to demonstrate compliance by using only those coatings which meet MACT requirements.

### **Recordkeeping**

The Wood Furniture MACT contains requirements for recordkeeping, including maintenance of certified product data sheets for each material used and all calculations used to demonstrate continuous compliance. No additional recordkeeping has been included in the Title V permit.

### **Testing**

The permit does not require source tests. The Department and EPA have authority to require testing not included in this permit if necessary to determine compliance with an emission limit or standard.

### **Reporting**

The Wood Furniture MACT requires that a source report compliance status annually, as well as demonstrating continuous compliance semi-annually. These requirements have been included in the permit.

## GENERAL CONDITIONS

The permit contains general conditions required by 40 CFR Part 70 and 9 VAC 5-80-110, that apply to all Federal operating permit sources. These include requirements for submitting semi-annual monitoring reports and an annual compliance certification report. The permit also requires notification of deviations from permit requirements or any excess emissions, including those caused by upsets, within one business day.

The general conditions include a condition requiring the submission of an annual compliance certification report. This condition incorporates EPA's policy directive in March 2010 that the annual compliance certification be submitted electronically.

The general requirements which apply to the facility include the administrative requirements of Chapter 20 of State Regulations which describe the authority of the DEQ and the responsibility of the company to provide accurate information pertaining to air emissions. This chapter also outlines the responsibility of the company to maintain the facility in proper operation. Because the facility contains units which were installed prior to March 17, 1972, the compliance provisions of Chapter 40 of State Regulations apply to those units. To these units, an opacity standard of 20% (one 6-minute period of not more than 60%) applies.

Units which were constructed after March 17, 1972 are subject to the compliance provisions of Chapter 50 of State Regulations. These regulations include an opacity standard of 20% (one 6-minute period not more than 30%).

## FUTURE APPLICABLE REQUIREMENTS

Emission units B-1 and B-2 will be subject to 40 CFR Part 63, Subpart DDDDD (Industrial/Commercial Institutional Boilers and Process Heater NESHAP (Boiler MACT)), when promulgated, unless the permittee obtains federally enforceable limits on its facility-wide emissions of hazardous air pollutants (HAPs) to below major-source thresholds prior to the first substantive compliance date of the Boiler MACT.

## INAPPLICABLE REQUIREMENTS

Citation	Title of Citation	Description of Applicability
40 CFR Part 60, Section 60.40c	Subpart Dc – Stds. Of Performance for Small Industrial-Commercial-Institutional Steam Generating Unit	<b>Not applicable</b> – The boilers constructed prior to June 9, 1989.

The startup, shutdown, and malfunction opacity exclusion listed in 9 VAC 5-40-20 A 4 cannot be included in any Title V permit. This portion of the regulation is not part of the federally approved state implementation plan. The opacity standard applies to existing sources at all times



including startup, shutdown, and malfunction. Opacity exceedances during malfunction can be affirmatively defended provided all requirements of the affirmative defense section of this permit are met. Opacity exceedances during startup and shutdown will be reviewed with enforcement discretion using the requirements of 9 VAC 5-40-20 E, which state that "At all times, including periods of startup, shutdown, soot blowing and malfunction, owners shall, to the extent practicable, maintain and operate any affected facility, including associated air pollution control equipment, in a manner consistent with air pollution control practices for minimizing emissions."

### INSIGNIFICANT EMISSION UNITS

The insignificant emission units are presumed to be in compliance with all requirements of the Clean Air Act as may apply. Based on this presumption, no monitoring, recordkeeping or reporting shall be required for these emission units in accordance with 9 VAC 5-80-110.

Insignificant emission units include the following:

Emission Unit No.	Emission Unit Description	Citation <sup>1</sup> (9 VAC_)	Pollutant Emitted (5-80-720 B.)	Rated Capacity ( 5-80-720 C.)
DG-1	Degreasing/ Parts Cleaning	9 VAC 5-80-720 B	VOC	3.31 ft <sup>2</sup> parts washer

<sup>1</sup>The citation criteria for insignificant activities are as follows:

- 9 VAC 5-80-720 A - Listed Insignificant Activity, Not Included in Permit Application
- 9 VAC 5-80-720 B - Insignificant due to emission levels
- 9 VAC 5-80-720 C - Insignificant due to size or production rate

### CONFIDENTIAL INFORMATION

The permittee did not submit a request for confidentiality. All portions of the Title V application are suitable for public review.

### PUBLIC PARTICIPATION

The draft permit was placed on public notice in The Gazette on September 13, 2010, and the comment period extended until October 13, 2010. A copy of the public notice was provided to North Carolina, West Virginia and Tennessee as affected states. All persons on the Title V mailing list were sent a copy of the public notice by e-mail, fax or letter. The draft was also transmitted to EPA for review as both a draft and a proposed document. No comments were received from the public, affected states or EPA, and one comment was received from the permittee during this period. This comment was addressed by letter dated October 29, 2010.